

Case of Aneurism of the Abdominal Aorta. Reported by R. SPITTAL, Esq., one of the House-Surgeons of the Royal Infirmary.

(From the *Edinburgh Medical and Surgical Journal*, No. 103.)

THE subject of the following case was a patient in the Royal Infirmary of Edinburgh for many months, under the care of Drs Christison and Gregory, physicians to that institution. The case is interesting both in a physiological and pathological point of view.

P. K., a man, aged 35, June 27, 1829. Has been addicted to the abuse of spirits, and has twice had an attack of delirium tremens. The report of this date is to the following effect: Complains of pain of the loins, stretching to the epigastrium, where there is a circumscribed pulsating tumour occupying part of this region and the left hypochondrium about three inches in length. He states that the tumour has existed and pulsated for four months.

29th. The pains of the back and abdomen continue.

July 2d. Pain of the right side of abdomen, with tenderness. Tumour perceptible to the right of epigastrium.

August 22d. Complains much of general pain of abdomen, and of diarrhoea.

September 17th. Very slight "bruit de soufflet" heard over the most anterior part of the tumour, immediately below the ensiform cartilage, and a little to the left side. Diarrhoea abated.

December 25th, Pain of the side in the region of the tumour has for three days past been more severe.

January 18th, 1830. Has been for some days liable to fits of severe pain in the region of the tumour.

February 1st. Increased pain of the tumour, with vomiting of ingesta and singultus.

3d. Gradually sunk and died this morning.

Such are occasional reports made concerning him during his residence in the hospital. He was seldom if ever entirely free from pain or uneasiness in the region of the tumour, especially towards its left side. The tumour itself was very tender on pressure generally; its pulsation was always distinct; and when grasped by the fingers and thumb, was found to distend in every direction. The pulsation, however, was more evident at the

date of his admission and for some time afterwards than a month or two before death, and the tumour appeared to have diminished in size. It certainly had not increased for some time before that event took place.

The stethoscope was frequently applied; but no very distinct "bruit de soufflet" ever was heard.

From the time this patient entered the hospital, until the day of his death, his bowels were for the most part constipated, in general requiring a powerful cathartic to move them.

He found occasional ease by sitting bent forwards in bed, and when up, he always walked with his body bent in this position; he likewise lay in the same manner.

Examination, February 4th.—The inner and middle tunics of the aorta were diseased in the usual manner, with here and there small calcareous depositions. In consequence of this affection, the inner surface of the aorta was uneven and somewhat corrugated. The arch of the aorta was not dilated, nor were the semilunar valves diseased.

Immediately above the part at which the cæliac and superior mesenteric arteries are given off, there was a small oblong dilatation of the aorta,—or, in other words, a small aneurismal pouch about half an inch in length, and projecting anteriorly. (L.) Also just below the origins of the vessels mentioned, occupying the space between these, and to about one-and-a-half inch of the inferior mesenteric artery, there was a large aneurismal tumour consisting of two globular sacs attached to each other. The one, which was large and firm, and about the size of a goose's egg, adhered to the vertebral column, and had effected partial absorption of one of the bodies of the vertebræ, and projected from the right side of the aorta. The other tumour was more anterior, smaller, softer, and projected from the large tumour over to the left side.

The aneurism in its enlargement had thrust aside all the adjacent soft parts. The *vena cava* lay over the larger tumour, being firmly attached by means of the left renal vein, which crossed over the smaller tumour, and compressed it, having caused slight projection on each side. The left renal vein, where it adhered to the tumour was nearly obliterated, and would scarcely admit at one point a small probe. The right renal vein was quite natural.

The left renal artery was found to go off from the aneurism in the space between the larger and smaller tumours on the left side. The right renal artery arose from the anterior surface of the large tumour; it was much about the usual size, but could not be traced beyond the walls of the tumour, being there quite obliterated.

The aneurism, when examined internally, presented the following appearances:—The larger tumour was found entirely filled with solid contents. Externally with regular and distinct layers of fibrin, of a pale muscular aspect, (B, B.) Internally, or towards the course of the aorta, there were clots of recently coagulated blood of a dark colour, and comparatively soft consistency, (b.) These occupied about somewhat less than one-fifth of the whole tumour, and were enclosed on their aortal side by a pale and apparently older layer of fibrin, over which the blood had flowed during life (c); it was very smooth, and was attached to the remaining portion of the aorta, (a, a.)

The recently coagulated blood in the large tumour communicated with recent coagula in the smaller, where a little fluid blood was likewise found. There was a considerable fibrinous deposition on the inner surface of the small tumour surrounding the recent coagula. Immediately below the edge of this deposition, in contact with the remaining aortic surface, the left renal artery was found to arise (h); and it is probable that a communication existed here, between the blood flowing in the course of the aorta and the recently coagulated blood described as found in the small tumour, which probably was fluid shortly before death.

In the large tumour of the aneurism the middle and external coats of the aorta were observed dilated, but the inner insensibly became lost as it was traced from the remaining portion of comparatively natural aortic structure into the tumour.

The smaller tumour was not so minutely examined; but it probably possessed the same structure.

The inner surface of the little pouch was irregular, and much more diseased than the aorta generally.

This aneurism then, was in a manner double, and probably arose from two pouches similar to the small one described.

At the angle of junction of the two tumours, there was a portion of comparatively natural aortic structure dividing these; and between that portion of the aorta lying over the vertebral column, and the two tumours, there was a free communication from the upper to the lower part of the aorta, by which during life the blood had flowed.

The right kidney was very small, being about one-fourth the usual size, while the left was perhaps rather above the usual dimensions.

The case described illustrates well the process of natural cure which is found to take place in aneurism. The large tumour was probably older than the smaller. The former contained more and firmer layers of fibrin than the latter, which

probably during life contained a considerable quantity of fluid blood, besides the fibrinous deposition mentioned.

The anomalous pains which he experienced are readily explained by the pressure of the aneurism on the surrounding parts; and the constipated state of his bowels was in all probability caused by this, exerted upon the nerves belonging to the semilunar ganglia and solar plexus, some of which, indeed, were found stretched across the tumour.

As already mentioned, there was no satisfactory stethoscopical indication; and this is easily explained. In one report, the "bruit de soufflet" is stated as indistinct; but it latterly was quite absent. The cause of this seems to have been the extensive fibrinous deposition within the aneurism, which at first, when less extensive, permitted the sound of the motion of the blood into the tumour to be heard indistinctly, but which, by gradual increase of the deposition, prevented this from being heard latterly.

The most uncommon fact connected with the case, however, is the state of the kidneys, in reference to the condition of their vessels. It has already been stated that the right kidney was about one-fourth the dimensions of the left; and it is curious to observe, in connection with this fact, that the right renal artery was obliterated, the right renal vein being quite pervious; so that the kidney derived but a very scanty supply of blood, probably from the capsular artery, or those going to the surrounding fat, and this found an easy return by the vein. On the other hand, the left renal artery was quite natural, while the vein was nearly obliterated. Thus it appears that the small supply of blood which the right kidney received had a very marked effect upon its growth. The quantity of nourishment afforded was insufficient to repair the constant waste. The small dimensions of the right kidney may, however, in part be attributed to the loss of nervous influence, caused by the pressure of the aneurism on the nerves going to it. This, however, was not minutely ascertained.

Explanation of the Plate—AA, The Aorta; II, the Iliacs; SS, the Vertebrae; CC, anterior part of the large aneurismal sac emptied of the coagula; D, opening communicating with the small sac; e, the celiac artery; f, the superior mesenteric; g, the inferior mesenteric; V, the vena cava.

Fig. 1.



Fig. 2.



Fig. 3.

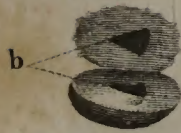
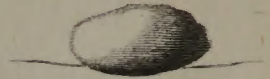


Fig. 4.



INSTRUMENTS REFERRED TO IN M^r LISTON'S CASE OF ANEURYSM.

Fig. 1.



Fig. 2.

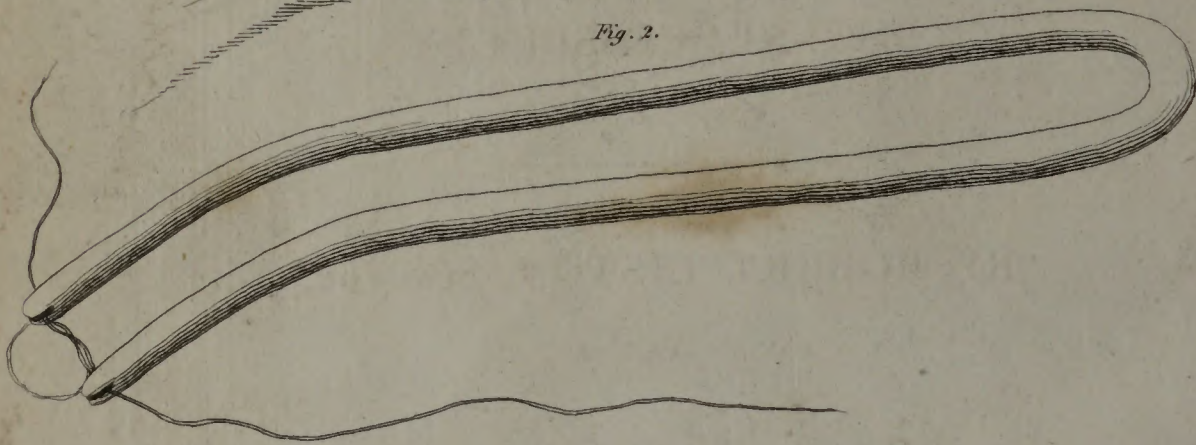
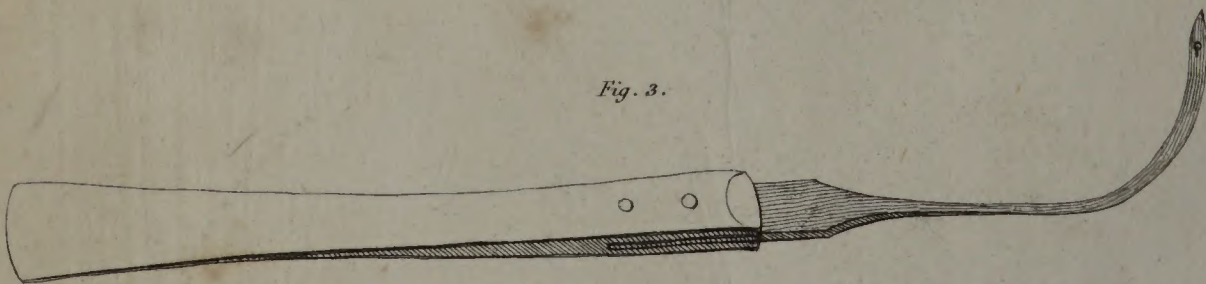


Fig. 3.



Eng^d by W. H. Lister